

IN THE CLAIMS:

Please CANCEL claim 32 without prejudice to or disclaimer of the recited subject matter.

Please AMEND claims 28-31 and 33-36, and ADD new claims 27-56, as follows. For the Examiner's convenience, all claims currently pending in this application have been reproduced below:

1-27. (Cancelled)

28. (Currently Amended) An exposure apparatus, comprising:

a carrying member for carrying thereon a workpiece; and

~~a supporting mechanism having a magnet, for supporting a weight of~~ first magnet element fixed to said carrying member; and

~~wherein a force to be applied to said magnet does not change with a shift of said carrying member along a plane perpendicular to a direction in which the weight is supported~~

a second magnet element for producing a force which acts between said first and second magnet elements in a direction opposite to a gravity direction of said carrying member,

wherein said first and second magnets have different sizes with respect to a direction perpendicular to the direction of the force.

29. (Currently Amended) An exposure apparatus, comprising:

a carrying member for carrying thereon a workpiece; and

a supporting mechanism for supporting said carrying member, said supporting mechanism having ~~an element for producing a force to increase/decrease a shift in a supporting direction, wherein, as the shift in the supporting direction increases, said carrying member is moved downwardly~~ a first element for producing a resisting force to a shift in a supporting direction, and a second element for producing a force for increasing the shift in the supporting direction,

wherein said second element can produce a force for moving said carrying member downwardly.

30. (Currently Amended) An exposure apparatus, comprising:

a carrying member for carrying a workpiece thereon; and

a supporting mechanism for supporting said carrying member ~~from~~ between a workpiece transfer position ~~to~~ and a workpiece processing position, said supporting mechanism having a first element for producing a resisting force to a shift in a supporting direction, and a second element for producing a force to increase a shift in the supporting direction.

31. (Currently Amended) An exposure apparatus, comprising:

a carrying member for carrying a workpiece thereon; and

a supporting mechanism for supporting said carrying member ~~from~~ between a workpiece transfer position ~~to~~ and a workpiece processing position, said supporting mechanism having a spring element and a plurality of magnet element; elements,

wherein, adjacent to the workpiece processing position, the weight of said carrying member and a combined force of a force produced by said spring element and a force produced by said plurality of magnet ~~element~~ elements are approximately equal to each other, and wherein said magnet element has a magnet with a clearance which is smaller at the transfer position than at the workpiece processing position

wherein a clearance between said plurality of magnet elements when said carrying member is present at the transfer position is smaller than the clearance when said carrying member is present at the workpiece processing position, and

wherein, adjacent to the workpiece processing position, an absolute value, of a changing rate of the force produced by said plurality of magnet elements with respect to a change in the clearance, is set to be smaller than an absolute value of a change rate of the force produced by said spring element with respect to a change in the clearance.

32. (Cancelled)

33. (Currently Amended) An exposure apparatus, comprising:

a carrying member for carrying a workpiece thereon; and

a supporting mechanism for supporting said carrying member from a workpiece transfer position to a workpiece processing position, said supporting mechanism having a spring element and a magnet ~~element~~; element,

wherein an absolute value of a changing rate of the force of said magnet element with respect to a change in clearance of the magnet, adjacent to the workpiece processing

position, is set to be smaller than an absolute value of a changing rate of the force of said spring element with respect to a change in the clearance of the magnet.

34. (Currently Amended) An exposure apparatus, comprising:

a carrying member for carrying a workpiece thereon; and

a supporting mechanism for supporting said carrying member from a workpiece transfer position to a workpiece processing position, said supporting mechanism having a spring element and a magnet ~~element~~; element.

wherein an absolute value of a changing rate of the force of said magnet element with respect to a change in clearance of the magnet, adjacent to the workpiece processing position, is set to be larger than an absolute value of a changing rate of the force of said spring element with respect to a change in the clearance of the magnet.

35. (Currently Amended) An exposure apparatus, comprising:

a carrying member for carrying a workpiece thereon; and

a supporting mechanism for supporting said carrying member ~~from~~ between a workpiece transfer position ~~to~~ and a workpiece processing ~~position~~; position.

wherein, adjacent to the workpiece processing position and the workpiece transfer position, the weight of said carrying member and a force ~~to be applied to said carrying member~~ are substantially balanced, and wherein, adjacent ~~the workpiece processing position~~, the weight of said carrying member and a force ~~to be applied to said carrying member~~ are substantially balanced produced by said supporting mechanism are approximately equal to each other, and

wherein, in said exposure apparatus, there is a position, other than the workpiece processing position and the workpiece transfer position, at which the weight of said carrying member and a force acting on said carrying member is not approximately equal to each other.

36. (Currently Amended) A device manufacturing method, comprising the steps of:

preparing an exposure apparatus as recited in ~~any one of Claims 28-35~~ Claim 28;

applying a resist to a wafer;

exposing the wafer by use of the exposure apparatus; and

developing the exposed wafer.

37. (New) An exposure apparatus according to Claim 28, wherein at least one of said first and second magnet elements includes a permanent magnet.

38. (New) An exposure apparatus according to Claim 28, wherein one of said first and second magnet elements includes a coil.

39. (New) An exposure apparatus according to Claim 38, wherein each of said first and second magnet elements comprises a layered structure of thin magnetic material plates.

40. (New) An exposure apparatus according to Claim 38, further comprising a controller for controlling an electrical current applied to said coil.

41. (New) An exposure apparatus according to Claim 40, further comprising a detector for detecting a clearance between said first and second magnet elements, and a circuit for feeding back a signal related to the detected clearance to the electrical current.

42. (New) An exposure apparatus according to Claim 29, wherein said supporting mechanism includes a spring element and a magnet element.

43. (New) An exposure apparatus according to Claim 42, wherein, adjacent to a workpiece processing position for processing the workpiece, a weight of said carrying member and a combined force of said first and second elements are substantially equal to each other.

44. (New) A device manufacturing method, comprising the steps of:

- preparing an exposure apparatus as recited in Claim 29;
- applying a resist to a wafer;
- exposing the wafer by use of the exposure apparatus; and
- developing the exposed wafer.

45. (New) An exposure apparatus according to Claim 30, wherein said second element for producing a force to increase the shift produces a force to move said carrying member downwardly.

46. (New) An exposure apparatus according to Claim 30, wherein, adjacent to the workpiece processing position, the weight of said carrying member and a combined force of said first and second elements are approximately equal to each other.

47. (New) An exposure apparatus according to Claim 30, wherein the force to be produced by said second element is larger at the transfer position than at the workpiece processing station.

48. (New) An exposure apparatus according to Claim 30, wherein said first and second elements include a spring element and a magnet element.

49. (New) A device manufacturing method, comprising the steps of:

- preparing an exposure apparatus as recited in Claim 30;
- applying a resist to a wafer;
- exposing the wafer by use of the exposure apparatus; and
- developing the exposed wafer.

50. (New) A device manufacturing method, comprising the steps of:

- preparing an exposure apparatus as recited in Claim 31;
- applying a resist to a wafer;
- exposing the wafer by use of the exposure apparatus; and
- developing the exposed wafer.

51. (New) A device manufacturing method, comprising the steps of:

- preparing an exposure apparatus as recited in Claim 33;
- applying a resist to a wafer;
- exposing the wafer by use of the exposure apparatus; and
- developing the exposed wafer.

52. (New) A device manufacturing method, comprising the steps of:

- preparing an exposure apparatus as recited in Claim 34;
- applying a resist to a wafer;
- exposing the wafer by use of the exposure apparatus; and
- developing the exposed wafer.

53. (New) A device manufacturing method, comprising the steps of:

- preparing an exposure apparatus as recited in Claim 35;
- applying a resist to a wafer;
- exposing the wafer by use of the exposure apparatus; and
- developing the exposed wafer.

54. (New) An exposure apparatus comprising:

- a carrying member for carrying a workpiece thereon; and



a supporting mechanism for supporting said carrying member between a workpiece transfer position and a workpiece processing position, said supporting mechanism having a spring element and a plurality of magnet elements,

wherein, adjacent to the workpiece processing position, the weight of said carrying member and a combined force of a force produced by said spring element and a force produced by said plurality of magnet elements are approximately equal to each other, and

wherein, in said exposure apparatus, there is a position, other than the workpiece processing position and the workpiece transfer position, at which the weight of said carrying member and a combined force of a force produced by said spring element and a force produced by said plurality of magnet elements is not approximately equal to each other.

55. (New) An exposure apparatus comprising:

a carrying member for carrying a workpiece thereon; and

a supporting mechanism for supporting said carrying member between a workpiece transfer position and a workpiece processing position;

wherein, adjacent to the workpiece processing position, a force produced by said supporting mechanism acts so as to prevent said carrying member from being shifted from the workpiece processing position; and

wherein, adjacent to the workpiece transfer position, the force produced by said supporting mechanism acts so as to prevent said carrying member from being shifted from the workpiece transfer position.

56. (New) An exposure apparatus comprising:

- a carrying member for carrying a workpiece thereon; and
- a supporting mechanism for supporting said carrying member between a workpiece transfer position and a workpiece processing position, said supporting mechanism having a spring element and a plurality of magnet elements,

wherein, adjacent to the workpiece processing position, a force produced by said supporting mechanism acts so as to prevent said carrying member from being shifted from the workpiece processing position, and

wherein, adjacent to the workpiece transfer position, the force produced by said supporting mechanism acts so as to prevent said carrying member from being shifted from the workpiece transfer position.